



US 20030011930A1

(19) **United States**(12) **Patent Application Publication**
O'Kane et al.(10) **Pub. No.: US 2003/0011930 A1**(43) **Pub. Date: Jan. 16, 2003**(54) **WRITE ELEMENT HAVING A NARROW
WRITER POLE DEFINED BY ION
IMPLANTATION****Related U.S. Application Data**(60) Provisional application No. 60/305,685, filed on Jul.
16, 2001.(76) Inventors: **William J. O'Kane, Derry (IE); Brian
L. Kelly, Derry (IE)****Publication Classification**(51) **Int. Cl.⁷ G11B 5/127**(52) **U.S. Cl. 360/125**

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Brian D. Kaul**WESTMAN CHAMPLIN & KELLY****International Centre - Suite 1600****900 South Second Avenue****Minneapolis, MN 55402-3319 (US)****ABSTRACT**

A write element includes a return pole that is separated from a writer pole by a writer gap layer. The writer pole has a width and a magnetically active region adjoining a first magnetically dead side wall. The magnetically active region defines a track width of the write element, which is less than a width of the writer pole.

(21) Appl. No.: **10/054,272**(22) Filed: **Jan. 22, 2002**